

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Atty. Docket

REINHOLD WIMBERGER FRIEDL ET AL

PHN 16,224

Serial No. 09/024,637

Group Art Unit: 2841

Filed: February 17, 1998

Examiner: T. Dinh

Title: SYNTHETIC RESIN CAPPING LAYER ON A PRINTED CIRCUIT

Honorable Commissioner for Patents
Washington, D.C. 20231

#16/Response
P. Tyson
9/4/01

AMENDMENT AFTER FINAL ACTION UNDER 37 C.F.R. §1.116

Sir:

This amendment is in response to the Final Office Action dated, June 7, 2001, in which Claims 8 and 11-14 were finally rejected. In order to place this application in condition for allowance or in better form for consideration on appeal, it is respectfully requested that this Amendment be entered.

REMARKS

This application has been carefully reviewed in light of the Office Action dated June 7, 2001. Claims 8 and 11-14 remain pending in this application. Claims 8 and 11 are the independent claims. Favorable reconsideration is respectfully requested.

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In response to the Office Action's objection to the drawings under 1.83(a), Applicants note that the "capping layer exhibiting a variation of mechanical properties" is included at least in Fig. 1, reference numeral 2. Further, page 8, lines 7-16 describe the variation in mechanical properties. 37 C.F.R. § 1.83(a) recites: "However, conventional features disclosed in the description and claims, where their detailed illustration is not essential for a proper understanding of the invention, should be illustrated in the drawing in the form of a graphical drawing symbol or a labeled representation..." Capping layer 2 is represented at least by the dotted layer 2 in Fig. 1 and consequently, is believed to satisfy § 1.83(a).

On the merits, the Office Action rejected Claims 8 and 12-14 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. More particularly, it was suggested that the specification does not teach how the capping layer exhibits a variation in mechanical properties or how the mechanical properties of the capping layer are a continuous variation. In response, it is respectfully submitted that claim 8 fully complies with the requirements of Section 112 for the reasons detailed below.

More particularly, with regard to the issue of how the capping layer exhibits a variation in mechanical properties, it

is noted that this feature is explained in some detail at page 2 of the instant specification, starting with the last paragraph, and page 8, second paragraph. In summary, the capping layer exhibits a variation in mechanical properties by changing from the soft and elastically-compressible characteristics of a foam to the hard and stiff (in torsion) properties of a solid material. In response to the indication that it was not understood how the mechanical properties of the capping layer are a continuous variation, it is respectfully submitted that this feature is explained in some detail on page 8 of the instant specification, starting with the last paragraph, through page 9, first paragraph. In other words, in a direction perpendicular to the surface of the capping layer, as one passes through the capping layer, the mechanical properties of the capping layer will vary, such as from softer to harder. As noted in the instant specification, such a variation in mechanical properties is of considerable commercial advantage, enabling the same layer to protect against shock and vibration (due to the softer parts of the layer) and to prevent damage due to torsional forces (due to the harder portions of the layer). Additionally, as also noted in the instant specification, such a configuration offers improved protection due to thermal variations, improved heat conduction, and flexibility of use.

Applicants respectfully request that the § 112 rejections be withdrawn in light of the above remarks.

On the merits, the Office Action rejected Claims 8 and 11-14 under 35 USC § 102(b) as being anticipated by Matsumoto et al. (U.S. Patent No. 5,406,027; hereinafter "Matsumoto"). Applicants respectfully submit that the pending claims are patentable over the cited art for at least the following reasons.

Claim 1 recites: "[A] printed circuit which is provided with a synthetic resin capping layer, said circuit comprising a printed circuit board having at least one electric component, and the capping layer exhibiting a variation of mechanical properties in a direction at right angles to a surface of the capping layer, characterized in that said variation of the mechanical properties is a continuous variation."

Matsumoto fails to recite or suggest capping layer exhibiting a variation of mechanical properties in a direction at right angles to a surface of the capping layer, characterized in that said variation of the mechanical properties is a continuous variation, as recited in Claim 1.

The Final Office Action states that the capping layer of Matsumoto inherently possesses / exhibits a variation of mechanical properties in a direction at right angles to the surface of the capping layer such as the variation of the

mechanical properties is a continuous variation. However, Matsumoto does not inherently recite Applicants' invention. Matsumoto generally relates to a board carrying a plurality of chips directly coated with a resin to form a casing thereupon. Col. 1, line 63 to Col. 2, line 40. Matsumoto recites an elastic resin 17 that coats a board structure (see Fig. 1D, 1E and Col. 3, lines 60-66).

In response to the inherency argument in the Office Action, Applicants respectfully note that a missing element is inherently present in a reference only if that element necessarily follows from what has been expressly described, and would be so recognized by one of skill in the art. Mere possibilities or even probabilities are not enough; necessity recognized by those of skill in the art is required.¹ The M.P.E.P. echoes this case law.

The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic.

¹ The Federal Circuit has clearly set out the standard for inherency in, e.g., Continental Can Co. v. Monsanto Co., 20 U.S.P.Q.2d 1746, 1749 (Fed. Cir. 1991)(emphasis added):

To serve as an anticipation when the reference is silent about the asserted inherent characteristic, such gap in the reference may be filled with recourse to extrinsic evidence. Such evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference and that it would be so recognized by persons of ordinary skill. In re Oelrich, 212 U.S.P.Q. 323, 326 (C.C.P.A. 1981) (quoting Hansgig v. Kemmer, 40 U.S.P.Q. 665, 667 (C.C.P.A. 1939)) provides: "Inherency, however may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient."

M.P.E.P. § 2112 (emphasis in original) (citations omitted).

Further, the following is also emphasized:

In relying upon the theory or inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teaching of the applied prior art.

M.P.E.P. § 2112 (emphasis in original) (citations omitted).

It is well established that a recited element or step is inherently present in a prior art reference only if that element is necessarily present or necessarily performed in that reference, and further that its presence or performance would be recognized by one of ordinary skill in the art from what has been expressly described. Second, the Office Action must provide objective evidence or cogent technical reasoning to support a contention of inherency.

Nothing found in Matsumoto recites or suggests the a variation of mechanical properties in a direction at right angles to the surface of the capping layer such as the variation of the mechanical properties is a continuous variation. The material resin of Matsumoto could be a rubber with uniform mechanical properties and include no variations whatsoever. Simply because Matsumoto teaches an elastic capping layer, the mere possibility of surmising that the resin possesses

This citation is also set out in M.P.E.P. § 2131.01(d).

variations or continuous variations is insufficient to vitiate an inherency argument.

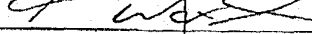
Accordingly, at least for these reasons, independent Claim 8 is believed to be patentable over Matsumoto.

Independent Claim 11 recites a mobile telephone substantially corresponding to the printed circuit of Claim 1 and is believed patentable for at least the same reasons.

The other claims in this application are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the same reasons. Since the dependent claims are also deemed to define an additional aspect of the invention, however, individual consideration or reconsideration, as the case may be, of the patentability of them on their own merits is respectfully requested.

In view of the foregoing, it is respectfully submitted that the currently-pending claims clearly define statutory subject matter. Accordingly, allowance of the currently-pending claims is now respectfully submitted to be justified, and favorable consideration is earnestly solicited.

Respectfully submitted,

By 
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September 7, 2001